

REMARKS

The Office Action dated August 9, 2004 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claim 19 has been amended. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 1-18 and 29-39 are allowed. Claims 19-28 are submitted for consideration.

Claims 19, 20 and 26-28 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,678,248 to Haddock et al. The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in independent claim 19.

Claim 19, upon which claims 20-28 depend, recites a network functions module. The network functions module includes at least one flow module and at least one memory in communication with the at least one flow module. The network functions module also includes a bridging and routing module in communication with the at least one flow module and the at least one memory. The bridging and routing module performs bridging of packets to a downstream flow module and routes the packets to and from a bus. The network functions module is configured to implement flow control and quality of service functions on packets in a network.

As will be discussed below, the cited prior art reference of Haddock et al. fails to disclose or suggest the elements of any claims 19, 20 and 26-28.

Haddock et al. teaches a flexible, policy-based mechanism for managing, monitoring and prioritizing traffic within a network and allocating bandwidth to achieve true Quality of Service (QoS). Col. 3, lines 36-39. A switch, in which the invention may be implemented, includes a central memory, multiple ports each coupled via a channel to a filtering/forwarding engine, a database, a random access memory (RAM) and a CPU. Col. 4, lines 12-20. The filtering/forwarding engine includes an address filter which may provide bridging, routing, VLAN tagging functions and traffic classification. Col. 4, lines 28-32. The switch matrix connects each channel to a central memory. The forwarding database may store information useful for making forwarding decisions. The switch forwards a packet received at an input port to an output port by performing a search on the forwarding database. If a matching entry is found, a forwarding decision is constructed that indicates to which output port the received packet should be forwarded, or else, the packet is forwarded to the CPU for assistance in constructing a forwarding decision. Col. 4, lines 32-50. Processing can be performed by functional units within the ports of the switch, the CPU or the address filter/switch matrix/buffer manager. A user interface may be provided for receiving various parameters from the network manager. The user interface receives information indicative of one or more traffic groups. Col. 4, line 58 – Col. 5, line 17.

Input data stream is received by a comparison engine from input switch ports and the comparison engine determines, with the help of a packet classification block, which of the previously defined traffic groups a packet in the data stream is associated. The packet classification block may employ the traffic group indications provided by the network manager to provide the comparison engine with information regarding locations and fields to be compared or ignored within the header of a received packet. Col. 6, lines 34-45. A buffer manager participates in policy based QoS by controlling the allocation of buffers within the packet memory. Col. 6, lines 63-65. The QoS category evaluation process separates the QoS queues into a plurality of categories based upon a set of bandwidth parameters. The scheduler uses the grouping provided by the QoS category evaluation process to select an appropriate QoS queue for sourcing the next packet for a particular port. Responsive to the scheduler, a dequeue block retrieves a packet from a specified QoS queue. After the packet has been transmitted, the buffer variables are updated. Col. 7, lines 44-56.

Applicant submits that Haddock et al. fails to disclose or suggest the claimed features in each of claims 19, 20 and 26-28. Claim 19, in part, recites a bridging and routing module in communication with the at least one flow module and the at least one memory, the bridging and routing module performs bridging of packets to a downstream flow module and routes the packets to and from a bus. The Office Action states that Haddock et al. teaches a bridging/routing module 145. According to Col. 5, lines 5-15 of Haddock et al., a user interface 145 may be provided for receiving various parameters

from the network manager. The user interface updates the local mapping of traffic groups to QoS queues. (See Col. 6, lines 10-12 of Haddock et al) Applicant submits that the user interface of Haddock et al. is simply not the same as the bridging and routing module recited in claim 19. In claim 19, the bridging and routing module is in communication with the at least one flow module and the at least one memory. There is no indication in Haddock et al. that the user interface is communication with the at least one flow module and the at least one memory.

Furthermore, although Col. 4, lines 29-32 of Haddock et al. states that the filtering/forwarding engine may provide bridging and routing functions, there is simply no teaching or suggestion in Haddock et al. of how the bridging and routing functions are performed. Applicants amended claim 19 to further define the functions implemented by the bridging and routing module. There is no teaching or suggestion in Haddock et al. that the filtering/forwarding engine which provides bridging and routing functions performs bridging of packets to a downstream flow module and routes the packets to and from a bus as recited in claim 19. Moreover, the user interface, identified by the Office Action as the bridging and routing module, simply does not perform bridging of packets to a downstream flow module and does not route the packets to and from a bus as recited in claim 19. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because Haddock et al. does not teach or suggest each feature of claim 19 and hence, dependent claims 20 and 26-28 thereon.

Claims 21-25 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Haddock et al. in view of U.S. Patent No. 6,011,775 to Bonomi et al. The rejection is traversed as being based on references that neither teaches nor suggests the novel combination of features clearly recited in independent claim 19 and hence dependent claims 21-25.

Bonomi et al. teaches a traffic shaper for use in a packet switched network. Col. 6, lines 43-45. Bonomi et al described a method of simultaneously reducing implementation complexity and traffic distortion by integration of a leaky bucket shaping. Col. 4, lines 23-31. However, Bonomi et al. fails to cure any of the deficiencies of Haddock et al. as discussed above with regard to claim 19. Although Bonomi et al. teaches the use of sorting bins or the use of a token, Bonomi et al. simply does not teach or suggest a bridging and routing module in communication with the at least one flow module and the at least one memory, the bridging and routing module performs bridging of packets to a downstream flow module and routes the packets to and from a bus as recited in claim 19 and hence claims 21-25. Furthermore, there is simply no motivation in Haddock et al. or Bonomi et al. to combine the use of sorting bins or the use of a token of Bonomi et al with the elements of Haddock et al. to provide the elements of claims 21-25. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Haddock et al. nor Bonomi et al., whether taken singly or combined, teaches or suggests each feature of claim 19 and hence, dependent claims 21-25 thereon.

As noted previously, claims 19-28 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-39 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Arlene P. Neal
Registration No. 43,828

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802